

Appl. No.: 09/932,148  
Amdt. dated 12/30/2004  
Reply to Office action of July 2, 2004

### **REMARKS/ARGUMENTS**

Applicant would like to thank the Examiner for the thorough review of the present application. Based upon the amendments and the following remarks, Applicants respectfully request reconsideration of the present application and allowance of the pending claims.

#### **The Present Invention**

The present invention provides for an improved method and device for capturing image data that benefits from having a single central processor execute the operating system, a barcode decode routine and application programs.

#### **Amendments to the Claims**

Independent Claims 1, 23 have been amended to specifically limit the claim to a process that assembles image pixel data into image data blocks, stores the image data blocks in memory and then accesses the memory to provide, at a central processor, barcode decoding of the image data blocks. The central processor additionally executes the device operating system and the application programs implemented on the device. As will be discussed below, we believe that by more accurately defining and limiting the method and the image device to one that provides centralized barcode decoding further clarifies the novelty of the present invention.

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### The Office Action

The Examiner has rejected Claims 1-40. Claims 1-40 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over United States Patent No. 6,144,403, issued to Otani (the '403 Otani patent) in further view of United States Patent No. 5,861,892, issued to Sato et al. (the '892 Sato patent).

### The '403 Otani Patent Does Not Teach or Suggest Assembling Image Pixel Data into a Plurality of Image Data Blocks

The Examiner rejected the originally submitted claim on the basis that the '403 Otani patent teaches assembling of image data (see Otani, image synthesizing, Figure 2, item 105). The applicant has amended the original claim language to more clearly define the invention. Claim 1 currently requires the step of assembling image pixel data into a plurality of image data blocks.

The teachings in the '403 Otani's invention as they relate to the assembly or image synthesize process describe synthesization of four different images into a single image. The four different images correspond to four different portions of a document, a1 through d1; see the '403 Otani patent, at Column 8, line 45 – Column 10, line 23, which describes the synthesization process. Specifically, at Column 10, line 24-35, the '403 Otani patent teaches that, "the image zone (X1s,X1e) (Y1s,Y1e) is then transferred to the display." In this regard, the '403 Otani teachings treat the four synthesized images as a single image of the A4-size document.

The present invention does not combine different images into a single image. Claim 1 requires that individual image pixel data be assembled into image data blocks. For example, the present invention teaches combining the pixel data from a single image into 32-bit words and then assembling the words into an image data block. See page 10 of the specification, lines 3 – 31. Claim 23 also requires that an image data assembler receive image pixel data from the imager and assemble the pixel data into image data blocks.

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Since the '403 Otani patent does not teach or suggest assembly of pixel data into image data blocks, the Applicant believes that independent claims 1 and 23, which require such are clearly distinguishable and, thus, patentable.

Claims 2-5, 7, 10, 12, 14-16, 18-21 are dependent claims that depend from Claim 1 and Claims 24-27, 30, 31, 33, 36, and 39 are dependent claims that depend from Claim 23. These claims add further limitations to the independent claims. Therefore, since the Applicant believes that Claims 1 and 23 are patentable, in view of the amendments and the remarks above, the dependent claims must also be deemed patentable, as a matter of law.

**The '403 Otani Patent Does Not Teach or Suggest Otani Assembling Pixel Data Prior to Writing the Images Data Blocks into Memory**

The '403 Otani patent teaches synthesizing the images *after* the images have been written into memory. The images of a zone are captured into memory and, then, the synthesizer rewrites them into memory. In the '403 Otani patent, first, zone a1 is captured into memory (Col. 8, line 46-47, Fig. 10, S114) then, the synthesizer rewrites zone a1 (Col. 8, line 61-63, Fig. 10, S118.) The '403 Otani patent subsequently teaches the process repeating for all the zones; b1, c1, and d1, i.e., the zone is first captured into memory. Once all the zones have been captured, the synthesization of the zones occurs whereby the zones are rewritten to memory by the synthesizer. (Col. 9, line 7 through Col. 10, line 23, Fig. 10, S117, S118, S120, S121, S123, S124).

In the present invention, as required by independent Claims 1 and 23, storage of the image data occurs after the image has been assembled into image data blocks. This is evident by the use of the language "assembled image data blocks" in regards to the function of storing data into the memory module.

Since the '403 Otani patent does not teach or suggest storage of the image data only after the assembly process has occurred, the Applicant believes that independent claims 1 and 23,

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which require assembly of the data prior to the storage, are clearly distinguishable and, thus, patentable.

Claims 2-5, 7, 10, 12, 14-16, 18-21 are dependent claims that depend from Claim 1 and Claims 24-27, 30, 31, 33, 36, and 39 are dependent claims that depend from Claim 23. These claims add further limitations to the independent claims. Therefore, since the Applicant believes that Claims 1 and 23 are patentable, in view of the amendments and the remarks above, the dependent claims must also be deemed patentable, as a matter of law.

**The '403 Otani Patent and the '892 Sato Patent Do Not Teach or Suggest Barcode Decoding of Image Data**

Neither of the combined references, the '403 Otani patent nor the '892 Sato patent, teach a method or device for providing barcode decoding of image data. No mention can be found in either patent as to barcode decoding. In fact, the '403 Otani patent teaches away from barcode decoding, in that, the teachings are concerned with increasing the resolution of the image at the expense of efficient decoding. Thus, the Otani teachings sacrifice processing speed in favor of image resolution. In barcode decoding the need exists to provide for efficient decoding of the barcode so that capture and decode of barcodes can be performed as quickly as possible; i.e., the need exists to speed up the process.

The motivation for the teachings in the '403 Otani patent is to improve image resolution. In the '403 Otani patent synthesization of four images into one composite image is conducted to improve the overall image resolution. While image resolution improves the overall speed of the process declines. In the '403 Otani patent motivation for image synthesis is to produce high resolution images instead of poor resolution images. (see, Col. 3, line 13-23). One skilled in the art would recognize that moving the camera over four zones (Col 7, line 35-40), capturing an image for each zone, (Fig. 10, S114, S117, S120, S123), and rewriting the four images during synthesis (Fig. 10, S115, S118, S121, S124) will produce a higher resolution image, but consequently take more time than transmitting and receiving a document as a moving picture.

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(Col. 3, 13-15). In effect, the '403 Otani patent teaches an image synthesis method that sacrifices speed in favor of higher resolution.

By comparison, the present invention is motivated by the need to capture and decode barcode images in a more timely and efficient manner. By providing for a single processor that executes the barcode decode routine, as well as, the operating system and application programs, faster processing is realized.

Independent Claims 1 and 23 of the present invention have been amended to limit the scope of the invention to the decoding of barcodes. Since neither the '403 Otani patent nor the '892 Sato patent teach or suggest decoding of barcode image data, the Applicant believes that independent claims 1 and 23, which require assembly of the data prior to the storage, are clearly distinguishable and, thus, patentable.

Claims 2-5, 7, 10, 12, 14-16, 18-21 are dependent claims that depend from Claim 1 and Claims 24-27, 30, 31, 33, 36, and 39 are dependent claims that depend from Claim 23. These claims add further limitations to the independent claims. Therefore, since the Applicant believes that Claims 1 and 23 are patentable, in view of the amendments and the remarks above, the dependent claims must also be deemed patentable, as a matter of law.

#### The '892 Sato Patent Does Not Teach or Suggest Barcode Decoding of Assembled Image Data Blocks

The Examiner relies on the teachings of the '892 Sato patent as a means of showing a process for decoding the assembled image data. However, the '892 Sato patent does not teach or suggest decoding *assembled* image data blocks. The '892 Sato patent teaches that the output from the decoder is used as an input to the synthesizer (assembler). (Sato Col. 4 line 53-55, Fig. 2, 6, 304). As such, in the '892 Sato teachings the decoding occurs prior to synthesizing and/or assembly occurring.

In the present invention, specifically as required by independent Claims 1 and 23, the

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decode operation occurs after the image data has been assembled. Such processing adds to the efficiency of the overall decode process, thus, insuring that information is decoded as quickly as possible.

Since the '892 Sato patent does not teach or suggest decoding of image data after the assemble and/or synthesizing of the data, the Applicant believes that independent claims 1 and 23, which require assembly of the data prior to the decoding, are clearly distinguishable and, thus, patentable.

Claims 2-5, 7, 10, 12, 14-16, 18-21 are dependent claims that depend from Claim 1 and Claims 24-27, 30, 31, 33, 36, and 39 are dependent claims that depend from Claim 23. These claims add further limitations to the independent claims. Therefore, since the Applicant believes that Claims 1 and 23 are patentable, in view of the amendments and the remarks above, the dependent claims must also be deemed patentable, as a matter of law.

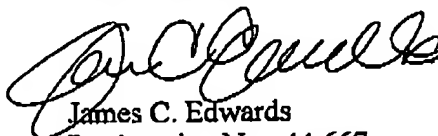
### **Conclusion**

In view of the proposed amended claims and the remarks submitted above, it is respectfully submitted that the present claims are in condition for immediate allowance. It is therefore respectfully requested that a Notice of Allowance be issued. The Examiner is encouraged to contact Applicant's undersigned attorney to resolve any remaining issues in order to expedite examination of the present invention.

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It is not believed that extensions of time or fees for net addition of claims are required, beyond those that may otherwise be provided for in documents accompanying this paper. However, in the event that additional extensions of time are necessary to allow consideration of this paper, such extensions are hereby petitioned under 37 CFR § 1.136(a), and any fee required therefore (including fees for net addition of claims) is hereby authorized to be charged to Deposit Account No. 16-0605.

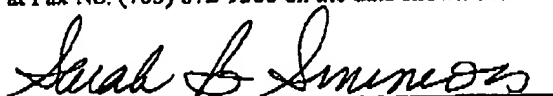
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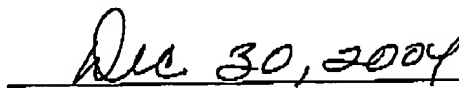
  
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